

channel and being for common use by a plurality of radio reception apparatuses;

a controller that controls whether or not to execute interference canceller processing according to the reception level of the reception signal; and

an interference canceller that executes the interference canceller processing in accordance with control of the controller.

Both Wang and Madkour fail to teach or suggest the feature recited in claim 11 wherein a determination is made whether or not to execute interference canceller processing in accordance with a measured reception level of a reception signal modulated by a specific known spreading code. By contrast to the claimed feature, Wang and Madkour teach always executing interference cancelling, and neither references teaches or suggests measuring the reception level of a reception signal, which is modulated by a specific known spreading code, for any purpose.

The Final Rejection proposes that Wang discloses a sequence detector 340, an interference canceller 370, and a controller (Final Rejection, paragraph bridging pages 2 and 3). However, the Final Rejection provides no citation of any specific portion of Wang to support a conclusion that Wang's sequence detector 340, interference canceller 370, and controller functionally cooperate in the manner defined by claim 11. Instead, the Final Rejection appears initially to conclude that the mere existence of these three components in a device produces the claimed

functional cooperation regardless of the manner in which the three components are interconnected with each other and other components of the receiver. As noted in the Applicant's Response of January 24, 2005, and further discussed below, Wang's device is incapable of making a determination of whether or not to execute interference canceller processing and, therefore, cannot make such a determination in accordance with a measured reception level of a reception signal modulated by a specifically known spreading code.

Wang discloses that sequence detector 340 may identify a set of multi-user interference spreading sequences within a received signal having energies exceeding a predetermined threshold (Wang col. 8, lines 50-56). However, Wang's sequence detector 340 does not influence whether interference cancellation occurs or not. Instead, the sequences identified by sequence detector 340, along with symbol estimates and power estimates generated by a symbol estimator 350 and a power estimator 360, are provided to interference canceller 370 (col. 9, lines 13-16). Interference canceller 370 cancels interference components in the correlations $z_{k1}-z_{kL}$ of the k th spreading sequence and the multipath signal components 315-1, ..., 315-L, producing interference-cancelled correlations $z'_{k1}-z'_{kL}$ (col. 9, lines 17-21). The interference-cancelled correlations $z'_{k1}-z'_{kL}$ are then combined in a maximal

ratio combiner 380, which produces an output (e.g., a soft information output) that may be used by a symbol estimator 390 (e.g., a decision device) to estimate a symbol transmitted according to the kth spreading code (col. 9, lines 21-26).

As may be determined from the paraphrased portions of Wang's specification, Wang discloses that interference cancellation always occurs. Therefore, sequence detector 340 has no influence on whether or not interference cancellation is executed.

In summary, Wang fails to teach or suggest the features recited in claim 11 of: (1) measuring the reception level of a signal modulated by a specific known spreading code and (2) determining whether or not to execute interference canceller processing in accordance with the measured reception level. And the Final Rejection cites nothing that supports a contrary conclusion. Instead, the Final Rejection appears to acknowledge Wang's failure to teach these features (see Final Rejection page 3, lines 5-8).

To overcome Wang's deficiency of teaching with respect to the above-mentioned features, the Final Rejection proposes that Madkour teaches, in Fig. 3, a controller 370 for controlling interference cancelling of spread signals on a downlink channel within interference cancelling receiver 390 (see page 3, lines 8-

12). However, Madkour suffers deficiencies similar to those of Wang.

Madkour's alleged teaching of controlling interference cancelling of spread signals on a downlink channel is not the "exact same technique" (as the Final Rejection proposes on page 3, line 8) as that achieved through the recited functional cooperation among the elements of the Applicant's claimed apparatus. As is the case with Wang, Madkour does not teach or suggest the features recited in claim 11 of: (1) measuring the reception level of a signal modulated by a specific known spreading code and (2) determining whether or not to execute interference canceller processing in accordance with the measured reception level.

Madkour's receiver always executes interference cancelling. As a result, Madkour's receiver cannot withhold execution of interference cancelling in accordance with a measured reception level of a signal modulated by a specific known spreading code.

Although the Final Rejection proposes that Madkour discloses a controller 370 that controls interference cancelling (Final Rejection page 3, lines 9-10), the Applicant respectfully submits that such is not the case. Madkour discloses a controller 370 that "is operatively associated with a baseband interference canceling receiver 390" (Madkour col. 8, lines 38-40).

Accordingly, the Applicant submits that the applied references do not disclose or suggest the subject matter defined by claim 11. Claims 17 and 18 similarly recite the aforementioned features distinguishing apparatus claim 11 from Wang and Madkour, although with respect to methods. Therefore, allowance of claims 11, 17, and 18 and all claims dependent therefrom is warranted.

Moreover, the Final Rejection proposes that one of ordinary skill in the art would find motivation from the teachings of the applied references "to modify Wang's system with Madkour's teaching technique and the spreading codes on the downlink channel as well as the controlling of the spreading codes in order to control and detect an estimate of an interfering signal component of the baseband signal associated with the detected spreading sequences as taught by Madkour" (Final rejection page 3, lines 12-17). Although the above statement in the Final Rejection is unclear, the Applicant interprets the Final Rejection as proposing that a skilled artisan would find motivation to modify Wang's receiver such that it would be capable of detecting and controlling an estimate of an interfering signal component within a received signal.

However, both Wang's and Madkour's receivers appear to already have the capability to detect and control an estimate of

an interfering signal component within a received signal. To support a *prima facie* case of obviousness, the Final Rejection must identify a specific modification of Wang's receiver and explain how this modification would achieve the claimed functionality.

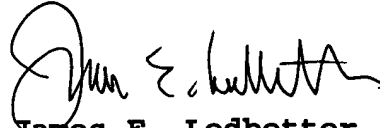
The Final Rejection proposes that both Wang and Madkour disclose controllers and interference cancellers and seems to suggest that Madkour's controller and interference canceller could be used in Wang's receiver. However, the Final Rejection cites no motivation or suggestion to modify Wang's receiver to include the additional controller and interference canceller taught by Madkour and does not provide any explanation as to how they might be used. In brief, the Final Rejection does not make clear what "Madkour's teaching technique" is and how Wang's receiver could be modified to support this technique. Therefore, allowance of claims 11-18 is warranted for this independent reason.

In view of the above, it is submitted that this application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone

the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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Date: November 28, 2005

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